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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.                | CONFIRMATION NO. |
|---|-------------|----------------------|------------------------------------|------------------|
| 10/821,184  | 04/09/2004  | Rinze Benedictus     | APV31628A                          | 8419             |
| 24257 7590 06/26/2007<br>STEVENS DAVIS MILLER & MOSHER, LLP<br>1615 L STREET, NW<br>SUITE 850<br>WASHINGTON, DC 20036 |             |                      | EXAMINER<br>MORILLO, JANELLE COMBS |                  |
|   |             |                      | ART UNIT                           | PAPER NUMBER     |
|   |             |                      | 1742                               |                  |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

|                              |                                   |                                   |  |
|------------------------------|-----------------------------------|-----------------------------------|--|
| <b>Office Action Summary</b> | Application No.<br>10/821,184     | Applicant(s)<br>BENEDICTUS ET AL. |  |
|                              | Examiner<br>Janelle Combs-Morillo | Art Unit<br>1742                  |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 16 April 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-124 is/are pending in the application.
- 4a) Of the above claim(s) 101-124 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-100 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>062605,082304,040904,051804</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Interpretation***

1. There are duplicate (and different) claims numbered '15'. The second '15' was renumbered '16' (see Claims dated 11/15/2004). The examiner talked with applicant's representative Anthony Venturino on June 13, 2007, and confirmed that renumbered dependent claims are meant to be dependent on 'original' claims, for example, renumbered claim 42, is held to be dependent on the renumbered claim 41.

### ***Election/Restrictions***

2. Applicant's election with traverse of group I in the reply filed on April 16, 2007 is acknowledged. The traversal is on the ground(s) that the search of both groups can be done without undue burden. This is not found persuasive because the search required for process claims of group II would not be required for group I, and a serious burden exists to search both groups together.

The requirement is still deemed proper and is therefore made FINAL.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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4. Claims 1, 5-16, 18, 19, 23, 24, 28-40 and 98 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Chakrabarti et al (US 2002/0121319 A1).

Chakrabarti et al teaches aerospace structural components (including wing units see abstract, Fig. 1) such as plate, extrusion, or forging with high strength and fracture toughness and superior SCC resistance [0016] made from Al-Zn-Cu-Mg alloys (abstract). Chakrabarti et al teaches said alloy comprises (in wt%): 6-10% Zn, 1.2-1.9% Mg, 1.2-2.2% Cu, and one or more of: up to 0.4% Zr, up to 0.4% Sc, and up to 0.3% Hf (see [0023]), up to 0.1% Cr, up to 0.3% Mn [0027], which significantly overlaps the presently claimed alloying ranges. Additionally, Chakrabarti teaches examples within the instant ranges (cl. 1, 5-16, 18, 19, 23, 24, 28) of Cu, Mg, Zn, Si, Fe, Zr, and Ti (see table 2 and footnote, see at least Ex. 6 etc.). Because Chakrabarti teaches examples within the presently claimed alloying ranges, it is held that Chakrabarti anticipates the instant invention. Alternatively, because Chakrabarti teaches a broadly overlapping alloy composition, it is held that Chakrabarti has created a prima facie case of obviousness of the presently claimed invention.

Concerning property claims 29, 30, if the prior art teaches the identical chemical structure (and as processed in substantially identical working and heat treatment tempers as in the instant specification), the properties applicant discloses and/or claims are expected to be present. Additionally, Chakrabarti teaches an EXCO ration of EB or better (therefore EB, EA, or pitting only), see [0123].

Concerning claims 5-16, 18, 19, 23, 24, 28, the alloying ranges taught by Chakrabarti meet the instant limitations (see above).

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Concerning claims 31-40 and 98, Chakrabarti teaches said alloy is formed by extrusion or forging (abstract) and formed into a structural component selected from a stringer, wing skin, or upper wing member (cl. 158, 199). Concerning the thickness of said product, Chakrabarti teaches a typical thickness of >2 inches (Chakrabarti at cl. 3), or a thin plate member <2 inches thick (Chakrabarti at cl. 11).

5. Claims 1-18, 20-36, 40, and 98 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Fridlyander et al (US 2004/0101434).

Fridlyander et al teaches aerospace structural components (including upper wing skins and stringers [0001]) formed from rolled sheet or plate, extruded profiles and panels, or forging, in order to obtain with high strength and fracture toughness and superior SCC resistance [0016] made from Al-Zn-Cu-Mg alloys (abstract). Fridlyander teaches said alloy comprises (in wt%): 7.6-8.6% Zn, 1.6-2.3% Mg, 1.4-1.95% Cu, 0.08-0.20% Zr, 0.01-0.05% Cr, 0.01-0.1% Mn, 0.02-0.15% Fe, 0.01-0.1% Si balance aluminum (abstract), which significantly overlaps the presently claimed alloying ranges. Additionally, Fridlyander teaches examples within the instant ranges (cl. 1, 5-18, 20-28) of Cu, Mg, Zn, Si, Fe, Zr, and Ti (Table 1, see at least Ex. 2, 5, 6 etc.).

Because Fridlyander teaches examples within the presently claimed alloying ranges, it is held that Fridlyander anticipates the instant invention. Alternatively, because Fridlyander teaches a broadly overlapping alloy composition, it is held that Fridlyander has created a prima facie case of obviousness of the presently claimed invention.

Concerning claims 2-4, Fridlyander teaches examples that meet said Mg and Cu relationship (see ex. 2, etc).

Concerning claims 5-18, 20-28, the alloying ranges taught by Fridlyander meet the instant limitations (see above).

Concerning property claims 29, 30, if the prior art teaches the identical chemical structure (and as processed in substantially similar working and heat treatment as in the instant specification), the properties applicant discloses and/or claims (such as EXCO rating) are expected to be present.

Concerning claims 31-36, 40, and 98, Fridlyander teaches said alloy is formed by extrusion or forging [0090] and formed into a structural component selected from a stringer, wing skin, or upper wing member [0001]. Concerning the thickness of said product, Fridlyander teaches a typical thickness of 12 mm and width 75 mm (0.47in x 2.95 in) [0081], which meets the instant thickness and thickness at 'thickest cross sectional point' limitations.

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 2-4, 15-27, 41-97, 99, 100 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chakrabarti et al (US 2002/0121319 A1).

Chakrabarti et al is discussed in paragraphs above. Chakrabarti teaches a Mn content of <0.2% and Cr of  $\leq 0.1\%$  [0027], which overlaps the presently claimed ranges (cl. 15-25, 50-52). Chakrabarti teaches up to 1.9% Mg, which is a close approximation of 1.92% Mg (cl. 27), and

touches the boundary of the Mg in instant claims 26, 69. The alloying ranges of Chakrabarti overlap those in instant claims 41, 45-52, 69, 73-80.

The Mg & Cu equation in instant claims 2-4, 42-44, 70-72, the ranges of Mg and Cu taught by Chakrabarti overlap said relationship (see above).

Concerning property claims 62-68, 91-97, if the prior art teaches the identical chemical structure (and as processed in substantially identical working and heat treatment tempers as in the instant specification), the properties applicant discloses and/or claims are expected to be present. Additionally, Chakrabarti teaches an EXCO ratio of EB or better (therefore EB, EA, or pitting only), see [0123].

Concerning claims 53-61, 64, 81-90, 99, 100, Chakrabarti teaches said alloy is formed by extrusion or forging (abstract) and formed into a structural component selected from a stringer, wing skin, or upper wing member (cl. 158, 199). Concerning the thickness of said product, Chakrabarti teaches a typical thickness of >2 inches (Chakrabarti at cl. 3), or a thin plate member <2 inches thick (Chakrabarti at cl. 11).

Because of the overlap, it is held that Chakrabarti has created a prima facie case of obviousness of the presently claimed invention.

Overlapping ranges have been held to be a prima facie case of obviousness, see MPEP § 2144.05. It would have been obvious to one of ordinary skill in the art to select any portion of the range, including the claimed range, from the broader range disclosed in the prior art, because the prior art finds that said composition in the entire disclosed range has a suitable utility. Additionally, "The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage

ranges is the optimum combination of percentages," In re Peterson, 65 USPQ2d at 1379 (CAFC 2003).

8. Claims 19, 37-39, 41-97, 99, 100 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fridlyander et al (US 2004/0101434).

Fridlyander et al is discussed in paragraphs above. Fridlyander teaches a Mn content of at least 0.01, which is held to be a close approximation of the presently claimed  $<0.01\%$  Mn. The alloying ranges of Fridlyander overlap those in instant claims 41, 45-52, 69, 73-80.

The Mg & Cu equation in instant claims 42-44, 70-72, the ranges of Mg and Cu taught by Fridlyander overlap said relationship (see above).

Concerning property claims 62-68, 91-97, if the prior art teaches the identical chemical structure (and as processed in substantially identical working and heat treatment tempers as in the instant specification), the properties applicant discloses and/or claims are expected to be present.

Concerning claims 53-61, 64, 81-90, 99, 100, Fridlyander teaches said alloy is formed by extrusion or forging [0090] and formed into a structural component selected from a stringer, wing skin, loaded beam, or upper wing member [0001]. Concerning the thickness of said product, Fridlyander teaches a typical thickness of 12mm and width 75mm (0.47in x 2.95 in) [0081]. It would have been within the disclosure of Fridlyander to extrude a profile or roll a plate to a given desired thickness, such as  $>2.5$  inches, depending on the desired application, because Fridlyander teaches said alloy can be formed into 'plates' (as well as thin sheets and thin profiles).



Therefore, it is held that Fridlyander has created a prima facie case of obviousness of the presently claimed invention.

### ***Double Patenting***

9. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

10. Claims 1-100 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 31 of copending Application No. 11/239651.

Although the conflicting claims are not identical, they are not patentably distinct from each other because said claim of US’651 teaches an overlapping Al-Zn-Cu-Mg alloy product.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

11. Claims 1-100 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 24-27 of copending Application No.

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10/976154. Although the conflicting claims are not identical, they are not patentably distinct from each other because said claims of US'154 teaches an overlapping Al-Zn-Cu-Mg alloy product.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

12. Claims 1-100 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1-24, 36-38 of copending Application No. 10/819130. Although the conflicting claims are not identical, they are not patentably distinct from each other because said claims of US'130 teaches an overlapping Al-Zn-Cu-Mg alloy product.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

### ***Conclusion***

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janelle Combs-Morillo whose telephone number is (571) 272-1240. The examiner can normally be reached on 8:30 am- 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



JCM

June 14, 2007

  
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